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Air Operating Permit Excess Emissions Report Form Part II

Name of Facility	Shell, Puget Sound Refinery	Reported by	Tim Figgie
Date of notification	October 15, 2010	Incident type: breakdown/ upset/startup or shutdown	Breakdown
Start Date	October 15, 2010	Start Time:	9:00 AM
End Date	October 15, 2010	End Time:	10:00 AM
Process unit or system(s): Flare			

Incident Description

On October 15, 2010 at approximately 8:45 AM the DCU blowdown recovery compressor (15K100) shutdown due to mechanical problems. During the coker blowdown the main flare header pressured up with the blowdown compressor out of service. Prior to starting the blowdown cycle Operations started additional flare gas recovery (FGR) compressors but the blowdown flow still pressured into the flare heater resulting in high sulfur gas to the flare.

To prevent a reoccurrence, Operations staff was informed of the importance of slowly venting during blowdown and allowing time for FGR compressors to kick on to keep the Flare system in control if K100 is running or down.

Immediate steps taken to limit the duration and/or quantity of excess emissions:

The Flare Gas Recovery unit was operating and recovering as much excess gas as possible.

Applicable air operating permit term(s): 4.10 and 4.11

Estimated Excess Emissions: Based on SO2 CEMS and calculated stack flow	Pollutant(s): SO2	Pounds (Estimate): 104
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The incident was the result of the following (check all that apply):

- ☐ Scheduled equipment startup
- ☐ Scheduled equipment shutdown
- ☐ Poor or inadequate design
- ☐ Careless, poor, or inadequate operation
- ☐ Poor or inadequate maintenance
- ☒ A reasonably preventable condition

Did the facility receive any complaints from the public?

- ☒ No
- ☐ Yes (provide details below)

Did the incident result in the violation of an ambient air quality standard

- ☒ No
- ☐ Yes (provide details below)

Root and other contributing causes of incident:

PSR0000525

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The root cause of the incident was a mechanical failure of 15K100, the DCU blowdown.

The root cause of the incident was:

(The retention of records of all required monitoring data and support information shall be kept for a period of five years from the date of the report as per the WAC regulation (173-401-615))

- ☐ Identified for the first time
☒ Identified as a recurrence (explain previous incident(s) below – provide dates)

A similar event occurred on July 20, 2010.

Are the emissions from the incident exempted by the NSPS or NESHAP "malfunction" definitions below?

- ☐ No
☒ Yes (describe below)

The root cause of the incident was a -----

Definition of NSPS "Malfunction": Any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or failure of a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. 40 CFR 60.2

Definition of NESHAP "Malfunction": Any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions. 40 CFR 63.2

Analyses of measures available to reduce likelihood of recurrence (evaluate possible design, operational, and maintenance changes; discuss alternatives, probable effectiveness, and cost; determine if an outside consultant should be retained to assist with analyses):

To prevent a reoccurrence, Operations staff was informed of the importance of slowly venting during blowdown and allowing time for FGR compressors to kick on to keep the Flare system in control if K100 is running or down.

Description of corrective action to be taken (include commencement and completion dates):

See above

If correction not required, explain basis for conclusion:

See above


Attach Reports, Reference Documents, and Other Backup Material as Necessary. This report satisfies the requirements of both NWCAA regulation 340, 341, 342 and the WAC regulation (173-400-107).

Is the investigation continuing? ☒ No ☐ Yes

Is the source requesting additional time for completion of the report? ☒ No ☐ Yes

Based upon information and belief formed after reasonable inquiry, I certify that the statements and information in this document and all referenced documents and attachments are true, accurate and complete.

Prepared By: Jason Smolsnik Date: October 20, 2010

Responsible Official or Designee:  Date: 11/30/10
PSL SGL